## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 30 September 2004 (30.09.2004)

PCT

(10) International Publication Number WO 2004/083208 A1

- (51) International Patent Classification7: C07D 471/10. 401/12, 521/00, 211/62, 295/12, A61K 31/451, 31/4725, 31/486, A61P 3/04, 15/00, 25/22, 25/24
- (21) International Application Number:

PCT/EP2004/002896

- (22) International Filing Date: 19 March 2004 (19.03.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 03006256.6

20 March 2003 (20.03.2003) EP

- (71) Applicant (for all designated States except US): MY-OCONTRACT LTD. [CH/CH]; Hammerstrasse 25, CH-4410 Liestal (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SOEBERDT, Michael [DE/DE]; Fecampring 28, 79618 Rheinfelden (DE). WEYERMANN, Philipp [CH/CH]; Auweg 35, CH-4450 Sissach (CH). VON SPRECHER, Andreas [CH/CH]; Nelkenweg 1, CH-4104 Oberwil (CH). HEN-NEBÖHLE, Marco [DE/DE]; Schillerstr. 26, 79618 Rheinfelden (DE).

- (74) Agent: GOLDBACH, Klara; Grünecker, Kinkeldey, Stockmair & Schwanhäusser, Maximilianstrasse 58, 80538 München (DE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
  - with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SUBSTITUTED PIPERIDINE AND PIPERAZINE DERIVATIVES AS MELANOCORTIN-4 RECEPTOR MODULA-

(57) Abstract: The present invention relates to novel substituted piperidine and piperazine derivatives as melanocortin-4 receptor (MC-4R) modulators. MC-4R agonists of the invention can be used for the treatment of disorders and diseases such as obesity, diabetes and sexual dysfunction, whereas the MC-4R antagonists are useful for the treatment of disorders and diseases such as cancer cachexia, muscle wasting, anorexia, anxiety and depression. All diseases and disorders, where the regulation of the MC-4R is involved, can be treated with the compounds of the invention.

